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Background on the Energy Shortages and High Costs

Historically

The investor-owned utilities (IOUs) planned, built, owned and operated distribution, transmission and power plants in California. As the IOUs owned most of the power generated in California and sold it directly to the consumer, the California Public Utilities Commission (CPUC) set the power rates on power generated by an IOU. Prices were set by the CPUC to ensure a "reasonable" price and based on a power plant's costs. The IOUs were held accountable for the system's reliability.

Investor Owned Utilities (IOUs)

California has three IOUs: Pacific Gas and Electric (PG&E); San Diego Gas and Electric (SDG&E) and Southern California Edison (SCE). They are wholly-owned subsidiaries of global energy companies.

PG&E: One of the largest combination natural gas and electric utilities in the United States. Based in San Francisco, it serves 13 million people throughout a 70,000-square-mile service area in Northern and Central California. The service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east.

SCE: One of the largest electric utilities in the United States. It is the largest subsidiary of Edison International (EIX). On an average day, SCE provides power for 11 million individuals, 800 cities and communities, 5000 large businesses, and 280,000 small businesses in Central and Southern California.

SDG&E: Now under the Sempra corporate umbrella, SDG&E serves 1.1 million customers in San Diego, 100,000 customers in Dana Point, San Juan Capistrano, San Clemente and parts of Laguna Beach, Laguna Niguel and Mission Viejo. SDG&E serves 97% of the region's customers.

Municipal Utility Districts

California has 26 municipal utility districts (MUDs). The most prominent are: East Bay MUD, Northern California's largest domestic water provider serving approximately 1.2 million people; and the Sacramento Municipal Utility District (SMUD), the sixth largest municipally owned utility in the nation. (Note: Under AB 1890, MUD customers were not affected in the same way as IOU customers.)

City Departments

The Los Angeles Department of Water & Power is technically not a MUD but rather a city-run department. It serves more people than any of the state's MUDs.

The 1980's

The California Energy Commission (CEC) is charged with determining future demand. Although the CEC forecast am increase in demand, it was not followed by the construction of new power plants, which resulted in Californians experiencing some of the highest electricity rates in the United States, others state that then-Governor Wilson, a proponent of deregulation, failed to release the estimates.

Demand rose due to a rapidly growing population (600,000 new residents a year), residential building for the increasing population in areas of extreme weather (mountains and central valley) resulting in increased air conditioning and heating loads, growth of industrial manufacturing, and the proliferation of business and home computers.

Anecdotally, the CEC states that on hot days Californian's use 28% of the energy load on air conditioning. Additionally, in 1983, computers and the computer industry used an estimated 1% of available power while it used an estimated 13% in 1999. It was in 1988 that the CEC projected that California's electricity demand would grow about 2% annually.

Antiquated System

Approximately one-in-four California power plants are at least 30 years old and in need of repair.

Additionally, no new power plants have been built in California in the past decade. While deregulation was presumed to bring new private generating facilities into the Grid, significant new investment has not occurred.

Finally, in the early 1990s, there was an oversupply of electricity in the Western states and the rapid and expansive growth in California's economy and the national economy was not anticipated.

California's Production Capabilities and Usage

California's generation sources include hydro, natural gas, cogeneration, wind, geothermal and nuclear. Roughly 11% is from renewables (including nuclear).

A megawatt is approximately enough electricity to supply 1,000 homes.

At maximum capacity, California's power plants can generate 55,000 megawatts, arguably enough to satisfy California's current demand. However, the antiquated system cannot operate at maximum capacity reliably. Also, there is no requirement that all power generated in California remains in state.

The current Cal ISO cap is $150 per megawatt-hour; other western states do not have caps.

The ISO manages the flow of electricity on 75% of the state's high voltage lines.

The ISO will declare a "Stage 2" emergency when electricity reserves fall below 5%. A "Stage 3" emergency is called when the reserve dips below 1.5% and rolling blackouts become probable.

Stranded Assets

AB 1890, signed into law in 1996, granted Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E) and Southern California Edison (SCE), California's three IOUs, the opportunity to recover from consumers close to 100% of their uneconomical (stranded) assets by March 31, 2002.

This opportunity included the explicit risk that some costs might not be collected by the end of the rate freeze (see *Residential and Small Commercial User Rate Reduction* below). "Stranded assets" include the paying off pre-existing contracts and other generation-related costs, as well as costs associated with distribution, transmission, public purpose programs, and nuclear decommissioning.

Competition Transition Charge (CTC)

For the first four years under AB 1890, the residential and small commercial customer will pay a Competition Transition Charge (CTC) for stranded assets and bond repayment. A CTC for typical residential and small commercial customers will be approximately 45 cents of each one-dollar paid for electricity. Utility companies have been collecting billions of dollars annually since the CTC was put in place.

Residential and Small Commercial User Rate Reduction

AB 1890 also froze the electricity rates of residential and small commercial customers until March 31, 2002, or until the IOUs had paid off their stranded costs, whichever came first. Rates for residential and small commercial customers were frozen 10% below the levels in effect as of June 1996 (arguably an artificially high base) and set to begin in 1998. This was to then be followed by an expected 20% discount in rates after the freeze was lifted, but no later than April 1, 2002. This rate reduction was to balance the large benefits of deregulation to large businesses.

Rate Reduction Bonds

To finance the 10% rate reduction to residential and small commercial consumers, $7.4 billion of bonds were issued. This bond issuance, the largest in California's history, was to be repaid by residential and small commercial customers over 10 years. These bonds were issued to finance the 10% rate reduction for residential and small commercial consumers, but some of the proceeds were used by the IOUs to make acquisitions, stock repurchases and shareholder dividends.

Power Exchange (PX)

AB 1890 created the PX to be the State's electricity auction house. A day in advance, generators offer electricity to be bid on in the wholesale market auction. On an hourly basis, the PX sets the price to be paid to all power sellers at the highest amount bid that hour.

Independent System Operator (Cal ISO)

AB 1890 created the Cal ISO as a non-profit agency to direct the flow of electricity throughout the State. Through its sophisticated technology, it tracks the output of generation within California. It is responsible for informing each provider of the amount of electricity needed from a facility and balancing this with out of state imports to meet demand.

When the supply purchased in the PX market is less than demand, the Cal ISO must make up the difference by purchasing enough electricity to balance the load and meet reserve levels.